

REMARKS

Reconsideration and further examination is respectfully requested.

Rejections under 35 U.S.C. §102

Claims 1, 3-12, 18-36 and 46-65 were rejected under 35 U.S.C. §102(b) as being anticipated by Ballardie (Network Working Group, University College of London, May 1996).

Ballardie:

Ballardie purports to provide a scalable solution to the multi-cast key distribution problems in the art, in particular using a Core Based Tree (CBT) multicast protocol. Ballardie describes, at page 2, 'how the CBT multicast protocol can provide for the secure joining of a CBT group tree.' Ballardie describes:

"... A shared multicast delivery tree is built around several so-called core routers. A group receiver's local multicast router is required to explicitly join the corresponding delivery tree after receiving an IGMP [8] group membership report over a directly connected interface. A CBT join message is targeted at one of the group's core routers...." (Ballardie, section 2, paragraph 2).

At pages 9-11, Ballardie describes the process of joining a multicast group in more detail:

"In the diagram, host h wishes to join multicast group G. Its local multicast router (router A) has not yet joined the CBT tree for the group G.... Immediately subsequent to a multicast application starting upon host h, host h immediately sends an IGMP group membership report, addressed to the group. In response to receiving the IGMP report, the local designated router (router A) authenticates the host's enclosed token. If successful, router A formulates a CBT join-request, whose target is core C (the primary core). Router A includes its own token in the join, as well as the signed token received from host h. *The join is digitally signed by router A.*"

In order to support a rejection under 35 U.S.C. §102(b), *every* limitation in the claims should be shown or suggested by the references.

On page 10, Figure 1 of Ballardie, Ballardie describes the process by which a host joins a multicast network. Applicants have amended the claims to more distinctly clarify at least one distinction between Ballardie and the claimed invention, where the claimed invention encodes the join request by including *a tag field computed using a keyed hash function and the authentication key and a nonce field comprising a number for preventing playback attack...*” No such structure is shown or suggested by Ballardie. Rather, Ballardie merely describes that an authorization stamp of the host may be forwarded to the AS.

Accordingly, for at least the reason that Ballardie fails to describe or suggest all the limitations of the independent claims, it is respectfully requested that the rejection of the claims be withdrawn.

Independent claims 20, 22, 29 and 32:

Each of the independent claims 20, 22, 29 and 32 have been amended to include a limitation of or similar to “...forwarding of the encoded join message to a rendezvous point, *wherein the encoded join request comprises a tag field computed using a keyed hash function and the authentication key and a nonce field comprising a number for preventing playback attack;..*” Accordingly, for at least the reason that Ballardie fails to an encoded join message as claimed, claims 20, 22 and 29 are patentably distinct over Ballardie. In addition, their respective dependent claims 21, 23-28 and 30-31 and 33-36 are patentable for at least the same reasons as their parent independent claims.

Independent claims 48, 53, 58 and 65:

Independent claims 48, 53, 58 and 65 have each been amended to include a limitation of “..., wherein the encoded join request comprises a tag field computed using a keyed hash function and the authentication key and a nonce field comprising a number for preventing playback attack;...” As described above, Ballardie fails to disclose such a structure.

Accordingly, for reasons similar to those put forth with regard to claim 1, claims 48, 53, 58 and 65 are patentably distinct over Ballardie. In addition, their respective dependent claims are patentable for at least the same reasons as their parent independent claims.

Conclusion:

Applicants have made a diligent effort to place the claims in condition for allowance. However, should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner telephone the undersigned, Applicants' Attorney at 978-264-6664 so that such issues may be resolved as expeditiously as possible.

For these reasons, and in view of the above amendments, this application is now considered to be in condition for allowance and such action is earnestly solicited.

Respectfully submitted,

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Date

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